

Remarks

This response is timely filed on June 30, 2003, being due on June 28, 2003, a Saturday, in the District of Columbia.

This application has been reviewed in light of the Office Action of March 28, 2003. Claims 1-20 are pending, and all claims stand rejected. In response, claim 10 is amended; new claims 21-26 are added; and the following remarks are submitted. Reconsideration of this application, as amended, is requested.

The Oath/Declaration is objected to on the basis of a typographical error. Applicant is investigating the matter now.

Claims 3 and 12 are rejected under 35 U.S.C. §112. Applicant traverses this ground of rejection.

The basis of the rejection is an assertion that it is not clear whether the stress relieving takes place before or after the coating step. Applicant believes that, in the statement of the rejection, “the coating step” refers to the step of “depositing an aluminum-containing coating”.

Applicant believes that the recitation is clear. Claims 3 and 12 each recite in part: “...the step of furnishing includes the step of stress relieving the article substrate...” The step of stress relieving is therefore part of the step of furnishing. The step of furnishing necessarily occurs before the step of “depositing an aluminum-containing coating”, see the “thereafter” recitation at the end of the “furnishing” step in claim 1, with a similar (in respect to “thereafter”) recitation in claim 10:

“...furnishing a nickel-base superalloy article substrate having a rhenium content of not less than about 4.0 percent by weight; thereafter
depositing an aluminum-containing coating...” [emphasis added]

The step of stress relieving, which includes the step of “stress relieving”, therefore necessarily occurs before the step of depositing.

This seems clear to Applicant. However, if Applicant has missed something here, further assistance from the Examiner will be appreciated.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claims 10, 11, and 13-16 are rejected as anticipated by Schaeffer U.S. Patent 6,066,405. Applicant traverses this ground of rejection.

Claim 10 is amended to recite that substantially no platinum-group element is present in the aluminum-containing coating, see para. [0012] and [0025] of the Specification. Schaeffer has no such disclosure, and in fact requires that platinum be present.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claim 12 is rejected under 35 U.S.C. §103 over Schaeffer in view of Murphy U.S. Patent 5,935,353. Applicant traverses this ground of rejection.

Claim 12 depends from claim 10, which recites the absence of a platinum-group element. Neither reference has any such teaching.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claims 1, 2, 4-11, and 13-20 are rejected under 35 U.S.C. §103 over Olsen U.S. Patent 6,045,863 in view of Schaeffer U.S. Patent 6,066,405.

Both references are nonanalogous art. Stated alternatively, both references are not within the scope and content of the prior art that may be used in forming a Section 103 rejection. Their teachings are therefore not properly utilized in forming the rejection. To be analogous art and properly used in forming a Section 103 rejection, a reference must be

concerned with the same problem as another reference and the claims which are being addressed. See, for example, Medtronic, Inc. v. Cardiac Pacemaker, Inc., 220 USPQ 97, 104 (Fed. Cir. 1983), stating: "Faced with a rate-limiting problem, one of ordinary skill in the art would look to the solutions of others faced with rate-limiting problems."

In the present case, the inventors were concerned with reducing SRZ in high-rhenium alloys, see paragraphs [0005]-[0008] of the present Specification. There is no mention in either reference of the SRZ problem, and no suggestion that the respective approaches would have any beneficial effect on reducing SRZ formation. No person of ordinary skill, seeking to reduce SRZ formation in high-rhenium superalloys, would select these two references for teachings to be combined, because neither would draw that person's attention as being relevant to the reduction of SRZ formation. The essence of the rejection is to use Olsen, which teaches a coating approach, and then introduce inconsistent teachings from Schaeffer (see following paragraph) because Schaeffer mentions one alloy that is susceptible to SRZ, although not in an SRZ-reduction context.

Further, Olson and Schaeffer are not properly combined in forming a rejection. Olson teaches a low-activity coating wherein the coating does not diffuse into the substrate (an "outwardly" diffusing coating, where the diffusion zone extends outwardly from the original substrate surface), while Schaeffer teaches a coating that diffuses into the substrate (an "inwardly" diffusing coating, where the diffusion zone extends inwardly into the substrate from the original substrate surface). MPEP 2143.01 provides that, in constructing a sec. 103 rejection, the proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference. MPEP 2143.02 requires that, in combining the teachings of two references, there must be a reasonable expectation of success in the combination. Both of these mandates would be violated in the proposed approach of combining the teachings of Olson and Schaeffer, because the coating approaches are physically incompatible and inconsistent with each other. If it is asserted that Schaeffer is used only for its Rene N6 teaching, then such a piecemeal selection is clearly hindsight reconstruction. The overall teachings of the Schaeffer reference, which are inconsistent with those of Olsen when considered in their entirety, must be considered.

The following principle of law applies to all Section 103 rejections. MPEP 2143.03 provides “To establish prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).” [emphasis added] That is, to have any expectation of rejecting the claims over a single reference or a combination of references, each limitation must be taught somewhere in the applied prior art. If limitations are not found in any of the applied prior art, the rejection cannot stand. In this case, the applied prior art references clearly do not arguably teach some limitations of the claims.

Claim 1 recites in part:

“wherein a ratio of a thickness of the additive zone to a thickness of the diffusion zone is not greater than about 3:1.”

Claim 17 has a similar recitation.

Neither reference has any such teaching. Olson reports an observation in one case that the inner diffusion zone is approximately half the width of the coating. That observation of a single instance does not constitute a teaching of the claim limitation in this Section 103 rejection (as distinct from a Section 102 rejection).

Claim 10 recites in part:

“the aluminum-containing coating has substantially no platinum-group element therein”

Neither reference has any such teaching. Schaeffer teaches directly to the contrary, that the aluminum-containing coating must have platinum therein.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Claims 3 and 12 are rejected under 35 U.S.C. §103 over Olsen and Schaeffer, and further in view of Murphy U.S. Patent 5,953,353. Applicant traverses this ground of rejection.

These claims incorporate the limitations of their parent claims, which are not properly taught by the combination of Olsen and Schaeffer. Murphy adds nothing in this regard.

Murphy, unlike Olsen and Schaeffer, does deal with the avoidance of SRZ. However, Murphy teaches an entirely different approach. In Murphy, the alloy is heat treated to achieve a RE Δ value of no greater than 40 percent. If the teachings of Murphy are combined with those of Olsen and Schaeffer, then the resulting combination of teachings must ensure that RE Δ is no greater than 40 percent. There is no showing that the approaches of the other two references are consistent with this requirement.

Claims 3 and 12 recite in part:

“the step of depositing is performed without any intermediate cold working of the surface of the article substrate”

Murphy teaches directly to the contrary, that the surface is given an intermediate cold work before the depositing, see col. 4, line 36-col. 5, line 4.

Applicant asks that the Examiner reconsider and withdraw this ground of rejection.

Attorney Docket No. 13DV-13989 (21635-0006)
Serial No. 10/071,130

Applicant submits that the application is now in condition for allowance, and requests such allowance.

Respectfully submitted,
MCNEES WALLACE & NURICK LLC



Carmen Santa Maria
Reg. No. 33,453
100 Pine Street, P.O. Box 1166
Harrisburg, PA 17108-1166
Attorney for Applicant

Dated: June 27, 2003
Phone: (717) 237-5226
Fax: (717) 237-5300